

### What is invasive pneumococcal disease?

Severe pneumococcal disease is a severe bacterial infection caused by *Streptococcus pneumoniae*, also called pneumococcus.

### How is invasive pneumococcal disease spread?

People spread pneumococcal bacteria to others through direct contact with respiratory secretions, like saliva or mucus. It is unknown how soon an infected person can spread the bacteria to another person, but spread may occur as long as the bacteria is present in respiratory secretions. Many people, especially children, have the bacteria in their nose or throat at one time or another without being ill. This is called “carriage,” and rarely leads to sickness.

### What are the signs and symptoms of invasive pneumococcal disease?

Symptoms depend on the part of the body that is infected. Most pneumococcal infections are mild. However, some can be deadly or result in long-term problems. It may cause pneumonia (infection of the lungs), meningitis (infection of the lining of the brain and spinal cord), blood stream infection (bacteremia), or sepsis, the body’s extreme response to an infection.

Symptoms can range from fever and chills, cough, vomiting, rapid breathing and blockage of the airway that allows air into the lungs to stiff neck, confusion, extreme pain or

discomfort. Sepsis can include kidney failure and damage to the brain, lungs or heart.

Other symptoms may include ear infections and sinus infections.

### How long after infection do symptoms appear?

Pneumococcal pneumonia is the most common clinical type of pneumococcal disease among adults. The incubation period of pneumococcal pneumonia is short, about 1 to 3 days.

### Who is most at risk?

Invasive pneumococcal disease occurs frequently in adults  $\geq 65$  years of age, in children  $< 2$  years of age, and in people with certain underlying conditions, such as HIV infection or weakened immune systems.

### How is invasive pneumococcal disease diagnosed?

Pneumococcal disease is diagnosed based on the type of symptoms a patient has and may include specific laboratory tests of sputum, blood or spinal fluid.

### How is invasive pneumococcal disease treated?

Pneumococcal disease is treated with antibiotics. However, pneumococcal bacteria are resistant to one or more antibiotics in more than 30% of cases. It is important to talk with your healthcare provider if you experience symptoms to get the right test and type of treatment.

## How can invasive pneumococcal disease be prevented?

The Centers for Disease Control and Prevention (CDC) recommend routine pneumococcal vaccination for all children <2 years of age and older adults  $\geq 65$  years of age. CDC also recommends clinicians vaccinate older children and adults who are at increased risk for pneumococcal disease.

## Where can I get more information?

- Your personal healthcare provider
- [Centers for Disease Control & Prevention](#)
- [Utah Department of Health](#)

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